

Coleman, Charles

From: Rick Tabish <rctabish@gmail.com>
Sent: Sunday, August 30, 2015 7:58 PM
To: Coleman, Charles
Cc: JC Combs
Subject: Additional Information for EPA Comfort Letter
Attachments: Charlie Coleman Letter.pdf

Charlie,

Please see the overview and summary on the attached PDF. I believe there is enough content about the project and validity of our company to set forth the reality of our project. Let me know if there is anything more you need. I look forward to visiting with you this week.

Sincerely,

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8/10/2015

Mr. Charles Coleman
Environmental Protection Agency - Anaconda Project Director
Region 8 | Montana Office Federal Building
10 West 15th Street, Ste 3200
Helena, MT 59626

Re: Atlantic Richfield Material Agreement

Charlie,

Basin Industrial Services/Premier Industries, LLC (BIS)(PI) has successfully completed all of the necessary process, environmental, customer, and financial due diligence in order to justify its proposed capital project to process the Anaconda slag into to both hydraulic fracturing proppants and pig iron for the steel industry.

Consequently, BIS/PI is now in a position to formally present this viable beneficial re-use application to the Atlantic Richfield team for their consideration., based on the merits if the technology, BIS/PI will be responsible for all additional research funding moving foward. BIS, in cooperation with the Montana Tech, plan to install a pilot program induction furnace and disk atomizer so the team of metallurgist and proppant engineers can bench mark and set production standards to validate anticipated production goals.

Based on the required CAPEX obligations to proceed with the project's initial developmental stage, BIS/PI along with their technical partners at Montana Tech are hoping that Atlantic Richfield enter into a long-term supply Agreement for the Anaconda slag based on the successful completion of BIS/PI's developmental phase.

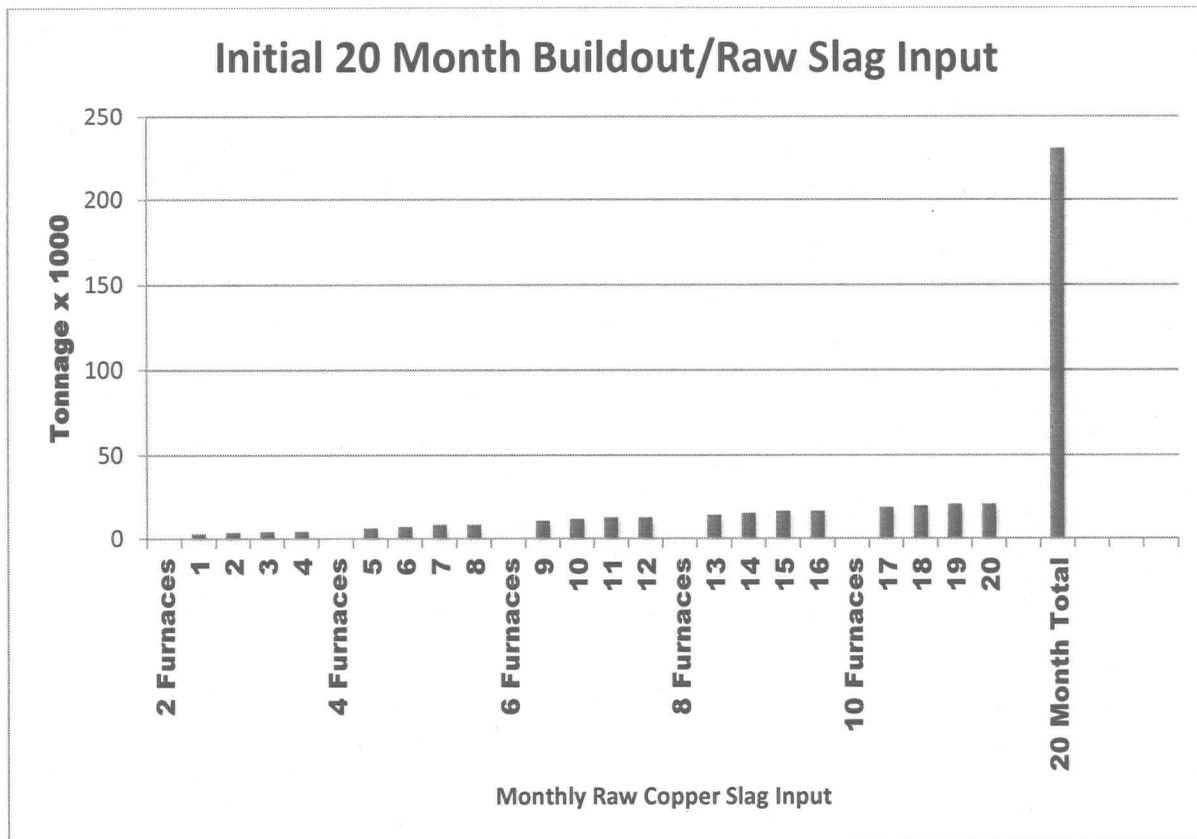
For your review, we have provided an executive overview of the project scope, process flow, market considerations, impact on local employment and projected project staging. This project is unique in the very sense that we do not have to develop a new market for the finished products generated from the slag. Both products, Pig Iron and Proppant have a staple market for immediate sale. The pig iron is highly marketable due to the malleability of the iron because of the slight copper content existing. (See Summary Below)

1) PIG IRON VOLUME SUMMARY

- For every ton of Anaconda slag that is processed, ~400 lbs of pig iron will be produced.
- The United States currently produces less than 3% of the World's merchant pig iron and imports \$1.6 Billion worth of pig iron per year. We have already developed a relationship with one of the largest pig iron brokers in the United States and they have expressed great interest in our Montana USA-Made pig iron.
- A scheduled 10-furnace operation conservatively consuming 180,000-250,000 annual tons of Anaconda slag will generate between 35,000 and 50,000 annual TONS of pig iron, less than 1% of the total annual imported

2) PROPPANT VOLUME SUMMARY

- We intend to ramp up to 10 - ten ton furnaces within 18 months and ultimately 30 furnaces in place within 3 years. Please view "AR Slag Input Table" for the first 10 furnaces input production for 20 months (See Table Below)
- A scheduled 10-furnace operation conservatively consuming 180,000-250,000 annual tons of Anaconda slag will generate between 80,000 and 160,000 annual TONS of glass proppant
- All proppant generated as a yield product from the slag pile will meet the compliant specified industry standard (API). Based on current testing and material data we are convinced the slag generated proppant will outperform the standard bauxite/ceramic proppant resulting from the specific properties, makeup and design. The finished products from BIS/PI's process are proudly American made vs. the massive influx of imported foreign proppant Basin Industrial Services, Inc (BIS) currently holds Master Service Agreements with several oil companies described in (part 3) below.



3) BIS/PI MARKET BASE

BIS client list of Master Service Agreements includes but not limited to:

- Statoil LLC.
- Oasis Petroleum LLC.
- Emerald Oil
- Whiting Gas & Oil
- Statoil LLC.
- Oasis Petroleum LLC.
- Taqa North
- Emerald Oil
- Whiting Gas & Oil

In addition, the following oilfield scope of services are performed on site working in conjunction with **Halliburton, Schlumberger, Cal-Frac, Sanjel** and **Oasis Oil Field Services** to name a few hydraulic fracturing industry giants.

- Drill out and work over rig flow back recovery(frac sand, proppant & water), separation and disposal from location.
- Transportation and GPS dispatch of proppant/sand separation unit for location and placement.
- Environmental Response and containment for hydrocarbon/saltwater/chloride releases.
- Short and long term remediation of impacted soils by using Calcium Nitrate or Hydrogen Peroxide based remediation programs based on the identified release description and electromagnetic /conductivity survey results.
- Drill cutting collection and solidification.
- TENORM (radioactive) handling and transportation as a licensed TENORM and Special Waste hauler.
- Licensed general contractor
- Rig pad, general site and haul road soil stabilization with specialized heavy equipment, utilizing engineered mix design and specialized stabilization fluid.
- Manufacture of specialized solidification equipment for on-site production at landfills,
- Material handling and placement.
- Equipment Mobilization.

BIS is currently carries a high safety rating with **INSnetworld** and **PEC Premier**. Both safety management consortiums are widely used and relied on by the oil industry. The breadth of operational savvy and logistics tied to operational flow in the Bakken remain currently high.

The transportation and delivery of proppant to the Bakken market is well thought out and structured by intimate knowledge of existing tried and tested rail road transfer stations around the greater basin area. The breadth of service and knowledge we possess from an experience and logistical standpoint allows our company to be fluent with every demurrage site, option and operator for proposed proppant delivery and distribution.

BIS enjoys a very productive healthy relationship with all above mentioned entities. Numerous discussions and productive dialog have taken place with a select few oil companies about purchasing glass proppant. The result was very streamlined and succinct in favor of any API certified proppant meeting industry performance standards. The discussion of an "American Made" recycled resource has further fortified BIS's potential offer relative to competitive alternatives..

4) PRODUCT VALIDATION

The Proppant Research Group (PRG) at Montana Tech of the University of Montana in Butte is BIS's testing and advising source of record. John Getty of the Geophysical Engineering Department was the primary driver behind the formation of the Proppant Research Group. Over the past 6 years he has developed a national and international reputation in the evaluation of natural and manmade proppant materials, and he has been actively involved in the research and development of novel materials for this application.

John and the PRG have conducted two tests on small samples of proppant that we have produced from the Anaconda slag using our process. A summary of those results is as follows:

February 6, 2015

- Sphericity = 0.92 (0 is the worst, 1.0 is perfect) The PRG uses 0.6% and above as acceptable for use as a proppant
- Roundness = 0.92 (0 is the worst, 1.0 is perfect) The PRG uses 0.6% and above as acceptable for use as a proppant
- Crush test = 8.9% fines @4,000 PSI (Results are "encouraging" yet not definitive because there was not enough material to perform three tests as required by the API spec)
- Results suggest that further investigation of this material as a potential proppant is merited

March 13, 2015

- Sphericity = 0.95 (0 is the worst, 1.0 is perfect) The PRG uses 0.6% and above as acceptable for use as a proppant
- Roundness = 0.88 (0 is the worst, 1.0 is perfect) The PRG uses 0.6% and above as acceptable for use as a proppant
- Crush test = 5.3% fines @5,000 PSI (Crush tests continue to be very "encouraging" yet not definitive because there was not enough material to perform three tests as required by the API spec)
- Per John Getty, "I continue to be impressed!"

5) ENVIRONMENTAL IMPACT OF PRODUCED MATERIAL

- Based on the current analysis of materials produced from the Raw Copper Slag the following analysis results were found in both Pig Iron and Proppant. Additional independent Lab certification is currently being conducted and we anticipate similar results to those outlined below.

Pig Iron Summary

- The raw slag analysis provided to us on the Arco-produced MSDS as well as the raw slag analysis that we had performed by independent labs showed only "trace" amounts of hazardous metals such as arsenic and lead. The levels are so low that the material is deemed safe enough to be placed in sand traps at the Old Works public golf course.
- Our process makes those "trace" amounts even more diluted and completely insignificant in the pig iron analysis.
- Following is a spectrographic analysis of one heat of pig iron that was produced from the Anaconda slag separation process that was provided to us in July 2014, along with specified industry requirements for Foundry Grade and Basic (Steel Making) Grade pig iron that we will be aiming for.

| Single Heat | Foundry <u>Analysis</u> | Basic <u>Grade</u> | <u>Grade</u> |
|-------------|----------------------------|-----------------------|--------------|
| Carbon | 3.02 % | 3.50-4.50 % | 3.50-4.50% |
| Silicon | 0.125 % | 1.50-3.00 % | 1.50 % max |
| Manganese | 0.036 % | 0.50-1.00 % | 1.00 % max |
| Phosphorus | 0.155 % | 0.10 % max | 0.10 % max |
| Sulfur | 0.180 % | 0.05 % max | 0.05 % max |
| Chromium | 0.044 % | | |
| Molybdenum | 0.018 % | | |
| Nickel | 0.032 % | | |
| Aluminum | 0.010 % | | |
| Cobalt | 0.008 % | | |
| Copper | 2.050 % | | |
| Niobium | 0.003 % | | |
| Titanium | 0.007 % | | |
| Vanadium | 0.104 % | | |
| Tungsten | 0.072 % | | |
| Tin | 0.017 % | | |
| Magnesium | 0.002 % | | |
| Zirconium | 0.002 % | | |
| Cesium | 0.001 % | | |
| Boron | 0.022 % | | |
| Iron | Balance | | |

Proppant Summary

In February 2015, a report titled Characterization of Bead Samples was prepared by Gary F. Wyss, Laboratory/Equipment Specialist of the Center for Advanced Mineral & Metallurgical Processing (CAMP) at Montana Tech of the University of Montana.

The "beads" provided to him were proppant samples produced from our Anaconda slag separation process followed by atomization at Retech in Ukiah, CA.

The full report is available for review.

Following is an executive summary from the report as well as phase (Table 1) and element (Table 2) compositions from the three bead samples. Note that there are no traces of any hazardous materials.

Material Summary

The Center for Advanced Mineral and Metallurgical Processing (CAMP) received three (3) bead samples February 6, 2015. The beads were characterized by automated scanning electron microscopy - energy dispersive X-ray (SEM-EDS) using the proprietary FEI mineral liberation analysis (MLA) software.

The calcium aluminosilicate phase (CaSiAlO) was the predominant phase (60-85%) in the beads with an iron-containing calcium aluminosilicate phase (FeCaSiAlO) the next most abundant (15-20%). The MLA analysis shows that sample 20 X 40 B contains a greater amount of metallic phases than in sample 20 X 40 A. The most abundant metallic phase was an un-oxidized phase of the approximate composition of Fe₄Si.

Table 1 - Phase content of the bead samples (wt%)

| Phase | Formula | 20 X 40 A | 20 X 40 B | 4k |
|--------------------|---|--------------|--------------|------|
| CaSiAlO | Ca _{1.5} Si ₃ AlO ₈ | 84.4 | 63.9 | 60.8 |
| FeCaSiAlO | Fe ₂ CaSi ₂ AlO ₅ O ₄ | 14.7 | 17.1 | 18.4 |
| Fe ₄ Si | Fe ₄ Si | 0.78 | 12.2 | 14.8 |
| Ti | Ti | 0.01 | 2.78 | 1.03 |
| FeO | Fe ₃ O ₄ | 0.03 | 2.23 | 1.89 |
| CuO | CuO | 0.01 | 0.68 | 1.15 |
| CaO | CaO | 0.01 | 0.37 | 1.27 |
| Co ₃ Cr | Co ₃ Cr | P | 0.35 | 0.02 |
| SiO ₂ | SiO ₂ | 0.02 | 0.19 | 0.11 |
| CaMgO | CaMg(CO ₃) ₂ | 0.02 | 0.08 | 0.22 |
| AlSiO | Al ₂ Si ₂ O ₅ (OH) ₄ | 0.01 | 0.05 | 0.10 |
| TiNb | Ti _{0.7} Nb _{0.3} | ND | P | 0.21 |

P - phase present, calculated at less than 0.01%

ND - phase not encountered

Table 2 - MLA-Calculated Bulk Elemental Analysis (wt%)

| Element | 20 X 40 A | 20 X 40 B | 4k |
|-----------|-----------|-----------|------|
| Oxygen | 39.4 | 32.2 | 31.5 |
| Silicon | 26.8 | 22.8 | 22.5 |
| Iron | 6.46 | 19.1 | 21.7 |
| Calcium | 19.0 | 15.5 | 15.7 |
| Aluminum | 8.30 | 6.58 | 6.37 |
| Titanium | 0.01 | 2.78 | 1.14 |
| Copper | 0.01 | 0.54 | 0.92 |
| Cobalt | P | 0.27 | 0.01 |
| Chromium | P | 0.08 | P |
| Magnesium | P | 0.01 | 0.03 |
| Carbon | P | 0.01 | 0.03 |
| Niobium | ND | P | 0.10 |
| Hydrogen | P | P | P |

P - element calculated at less than 0.01%

ND - element not calculated

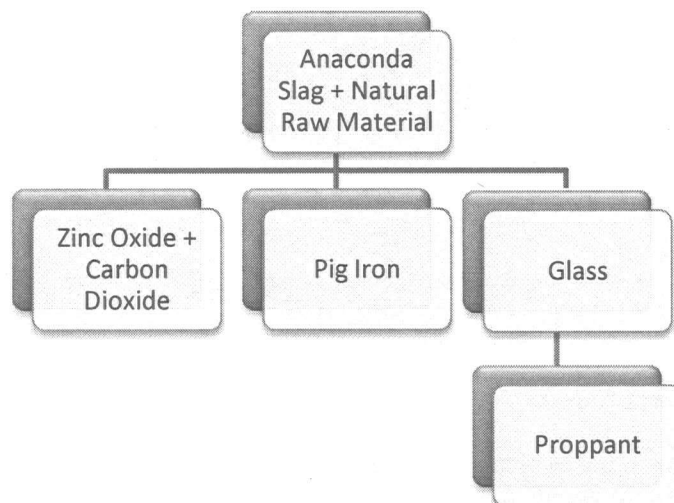
6) COMMENCEMENT TIMING

Upon securing a material agreement with Atlantic Richfield and obtaining funding, the following actions will immediately be implemented:

- 1) A purchase order will be placed with our induction furnace manufacturer for a 100-lb test furnace.
- 2) A purchase order will be placed with our atomizing equipment supplier for an accompanying atomizing unit.
- 3) A lease agreement will be signed with a local Butte manufacturing company for pre-determined space to locate the equipment and accommodate MT Tech testing.
- 4) MT Tech will begin immediate outlined research prior to receiving the equipment.
- 5) Initiate production equipment purchase and begin proper permitting procedure.
- 6) Simultaneous site preparation and development set forth for plant build out at location agreed upon by Atlantic Richfield.

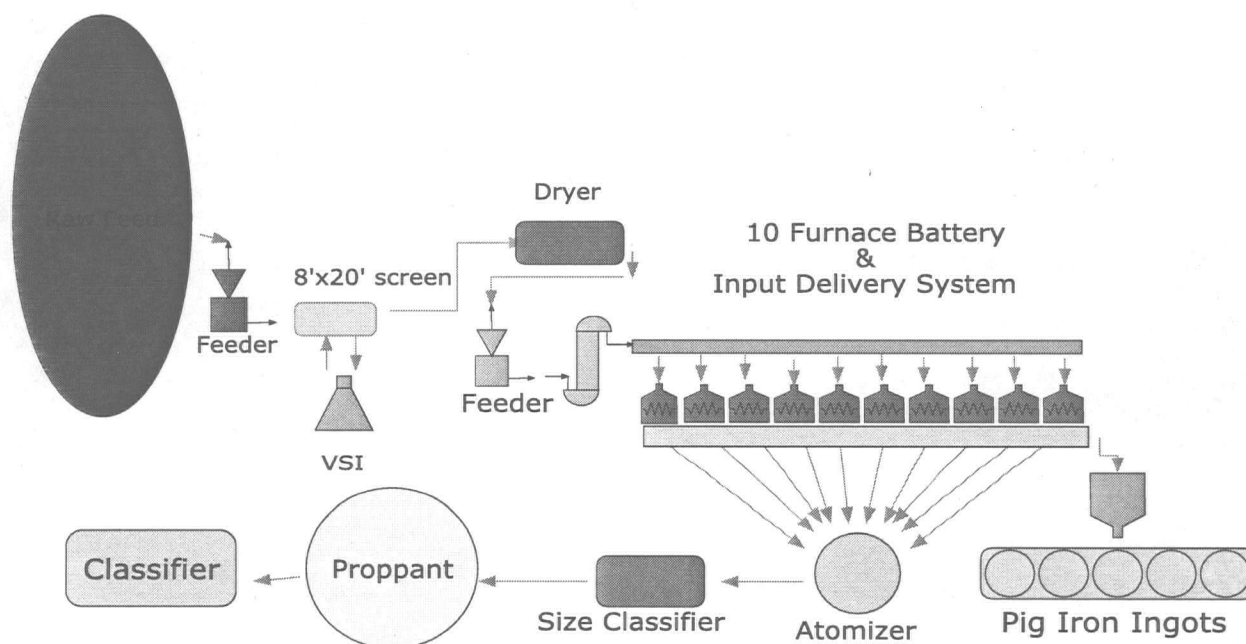
The pilot equipment for Montana Tech is expected to be delivered within 12 weeks of placing the orders. We anticipate approximately 4 weeks of installation and startup with testing and complete development of the process to be completed by Q1 of 2016.

7) GENERAL FLOW OVERVIEW



8) PRODUCTION FLOW

Production Flow Chart



9) SITE REQUIREMENTS

- 10 acres with Rail Access. In prior meeting we discussed area directly west of slag pile across drainage. More comprehensive layout can be provided for meeting.

10) PURCHASE AGREEMENT

- Material Agreement to be negotiated on royalty basis per ton with a base FOB Price
- Minimum tonnage guarantees to be negotiated.

11) COMMUNITY/JOB CREATION

- As shown below once we ramp up to 10 furnaces we will employ in excess of 180 employees. We have not calculated the intended goal of 30 furnaces at this point. Obviously, the calculations would grow exponentially. Initially we will start with approximately 36 employees immediately. We are planning to have a community job fair and exhaust all local qualified personnel in Anaconda and the surrounding area.

Pig Iron & Glass Proppant Production from Copper Refining Slag Manning Summary 10 FURNACES

| | Number | Annual Wage per Employee | Total |
|---|------------|--------------------------------|---------------------|
| Production Employees (4 / Shift / Module) | 80 | \$ 45,000 | \$ 3,600,000 |
| Material/Transfer/Load Out/4 shifts | 32 | \$ 42,000 | \$ 1,344,000 |
| Supervisor (1 / Shift / Module) | 20 | \$ 65,000 | \$ 1,300,000 |
| Maintenance (1 / Shift / Module) | 20 | \$ 50,000 | \$ 1,000,000 |
| Lab Technician (2 / Shift) | 8 | \$ 45,000 | \$ 360,000 |
| Plant Manager | 4 | \$ 95,000 | \$ 380,000 |
| Safety Coordinator | 1 | \$ 85,000 | \$ 85,000 |
| Safety Officer | 4 | \$ 45,000 | \$ 160,000 |
| CTO | 1 | \$ 125,000 | \$ 125,000 |
| CFO | 1 | \$ 160,000 | \$ 160,000 |
| CEO | 1 | \$ 225,000 | \$ 225,000 |
| HR / Payroll / Office Manager | 1 | \$ 80,000 | \$ 80,000 |
| Office Employees (2 / Shift) | 8 | \$ 35,000 | \$ 280,000 |
| Totals | 181 | | \$ 9,099,000 |

2 DAY SHIFTS of 4 days at 12 hours/shift
2 WEEKEND SHIFTS of 3 days at 12 hours/shift

12) SUMMARY OF EMPLOYMENT OPPORTUNITY

- 2-Furnace Operation Estimates (By Q1 2016)

Input: 35,000 - 50,000 tons of Anaconda slag + natural raw materials

Estimate 36 direct employees with ~\$3.6 million annual payroll

- 10-Furnace Operation Estimates (By Q3 2017)

Input: 230,000 - 275,000 tons of Anaconda slag + natural raw materials

Estimate 180 direct employees with ~\$9.0 million annual payroll

- 30-Furnace Operation Estimates (By Q3 2018)

Input: 690,000 - 750,000 tons of Anaconda slag + natural raw materials

Estimate 400 direct employees with ~\$24.0 million annual payroll (not including repeat positions of management)

13) IN CLOSING

Basin Industrial Services, Inc/Premier Industries, LLC has spent a great deal of time, effort and money in the due diligence phase of this project. We have enlisted some of the most talented professionals in the select areas of discipline this project demands. The few things we know for sure are as follows:

- 1) Approximately 34-90 million tons of raw copper slag feed is available.
- 2) The slag can be processed into Pig Iron and Proppant.
- 3) There is a thriving market for proppant world wide
- 4) We cannot produce either pig iron or proppant fast enough to meet demand.

Based on the above four factors we believe that, as a company, we have exhausted all primary due diligence requirements to establish the feasibility criteria for the above described project. In order to move forward and initiate funding requirements needed to make this project a state of the art production facility we have arrived at the point of developing a Material Supply & Site Agreement between Atlantic Richfield and Basin Industrial Services, Inc/Premier Industries, LLC.

We are requesting the EPA set forth a comprehensive list of further due diligence, and technical data if required to formulate a letter of acceptance for the above described process in making pig iron and glass proppant. We are desirous that the letter is addressed to Premier Industries, LLC which would be the operating company. In addition, we feel that the process would move in a more expeditious with Atlantic Richfield if the EPA could tailor the letter to address the Raw Copper Slag as a "product" and not a waste product.

Please feel free to contact me with any further questions or concerns.

Sincerely,

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